

# Mystic Plains

## Conservation Opportunity Area



Central Dissected  
Till Plains



*Many prairie animals persist in large, wildlife-friendly grasslands.*

Cliff White, Missouri Department of Conservation

The Mystic Plains Conservation Opportunity Area (COA) is a private land initiative in southeast Sullivan County and southwest Adair County. Identified as a Grasslands Coalition Focus Area in 1998, the Mystic Plains features large grassland expanses.

As recent as the 1940s, the Mystic Plains had one of the largest remaining prairie-chicken populations in the state. By the 1960s, however, prairie-chickens had dramatically declined in most of Missouri. Recent reintroductions of the greater prairie-chicken into grassland landscapes have shown that it can be successful. In 1998, the Mystic Plains Focus Area had more than 40 male prairie-chickens. Sullivan County has one of the highest numbers of acres enrolled in the

Conservation Reserve Program (CRP). Many ranchers remember prairie-chickens and are interested in the recovery of this prairie bird.

Many prairie animals can benefit from wildlife-friendly grasslands, including regal fritillary butterflies, western chorus frogs, northern harriers, upland sandpipers and bobolinks. Over one-third of Missouri was once native tallgrass prairie. Today, less than one percent remains. Landowners can help improve habitat for native prairie animals by replanting disturbed areas with a mixture of native warm-season grasses and wildflowers, modifying hay field management, using prescribed fires to benefit native plants and minimizing use of herbicides, insecticides and pesticides during the prairie-chicken breeding season.

## Mystic Plains Conservation Strategies:

- Protect a sizable core area for prairie-chicken management through public ownership or conservation easements.
- Increase plant diversity and structural diversity of grasslands, emphasizing native plants.
- Expand incentive programs for prairie restoration.
- Develop burn assistance teams to assist private landowners.
- Maintain or increase prairie-chicken populations.
- Expand public interest in native grasslands and prairie wildlife.
- Control undesirable woody plants in uplands.
- Restore prairie-chicken nesting cover within two miles of prairie-chicken leks.



Ken McCarty, Missouri Department of Natural Resources

***Rattlesnake master** flowers among the 200 year-old white oaks on this restored savanna landscape at nearby Chariton River Hills Natural Area in Long Branch State Park. Open woodlands and savannas once occurred along streams in the Mystic Plains COA.*

### Priority Research and Inventory Needs

- Inventory native prairie remnants.
- Conduct a grazing trial using patch-burn grazing in cool season pastures.
- Survey landowners to determine interest in managing land for grassland wildlife.
- Determine best methods to promote healthy prairie-chicken habitats.

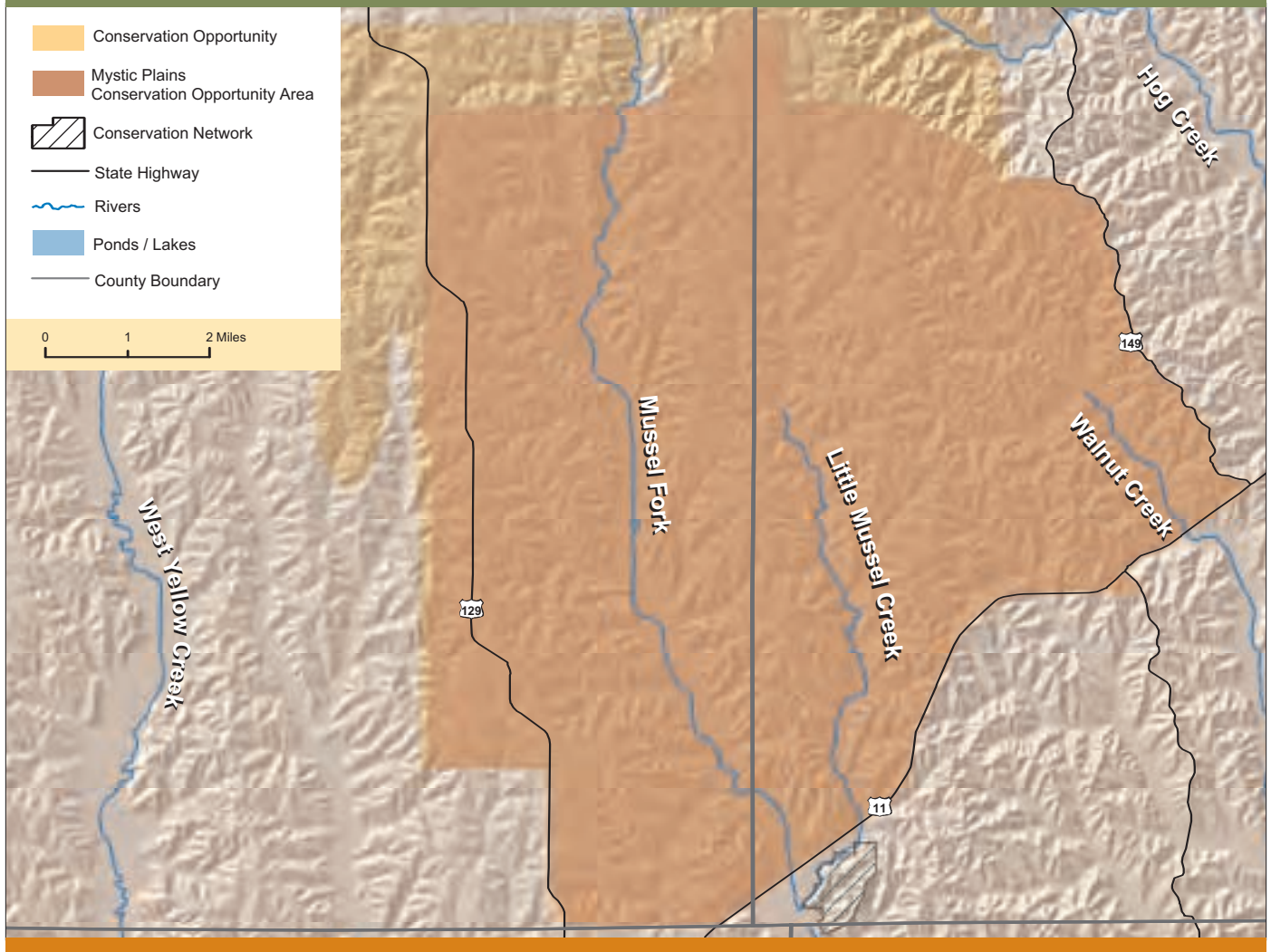
### Conservation Partners

**Existing:** Missouri Prairie Foundation; National Wild Turkey Federation (NWTF); Natural Resources Conservation Service (NRCS); Missouri Department of Conservation (MDC)

**Potential:** Audubon Missouri; Grasslands Coalition; Missouri Conservation Heritage Foundation (MCHF); U.S. Fish and Wildlife Service (USFWS)



## Mystic Plains Conservation Opportunity Area



Jim Rathert, Missouri Department of Conservation

**Greater prairie-chickens** once ranged throughout native prairies in central North America. In Missouri, they historically occupied large grasslands bordered by oak savannas and woodlands. Greater prairie-chickens forage on the ground for leaves, grasses, seeds and insects.

## Funding Sources

**Existing:** MDC Private Lands Cost Share Program; Farm Service Agency Conservation Reserve Program; NRCS Wildlife Habitat Incentive Program; NRCS Environmental Quality Incentives Program; NWTF Wild Turkey Super Fund

**Promising Future Sources:** USFWS Partners for Fish and Wildlife Program; Missouri Bird Conservation Initiative Grants; MDC State Wildlife Grants; MDC Wildlife Diversity Funds; MCHF Stream Stewardship Trust Fund; MCHF Grants

## Existing Conservation Network

Private land initiative

## Grazing Grasslands



*Bison and elk no longer roam freely in Missouri's prairies, but cattle grazing may play a similar role. Landowners can help mimic the effects of bison and elk by rotating cattle to different fields and allowing other grasslands to regrow. Overgrazing prevents the success of many native prairie plants and animals.*

Cliff White, Missouri Department of Conservation

## Conservation Challenges

Very little natural vegetation remains in the Mystic Plains Conservation Opportunity Area. Most remaining grasslands are exotic, cool-season grasses like fescue and brome. Prescribed burns should be conducted to complement a diversity of native species, reduce exotics and woody invasion and enhance populations of species of conservation

concern. Potential obstacles to conservation success include gaining landowner acceptance, limited funding and staff time, lack of cost-share program continuity, few knowledgeable contractors, difficulty of applying prescribed burns on private lands and the current low priority for savanna management.

To learn more about the Mystic Plains Conservation Opportunity Area, please contact:

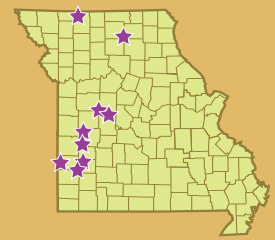


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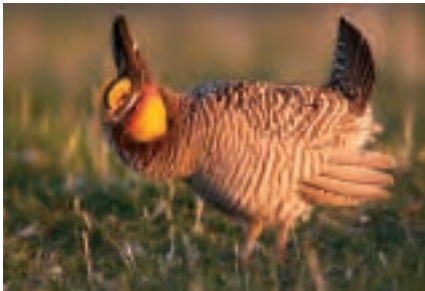


# Greater Prairie-Chicken

## Recovery Initiative



Grasslands Coalition  
Focus Areas



Greater Prairie-chicken



Prairie-chicken Lek



Native Prairie

As a result of continuing population declines throughout the state, the Missouri Department of Conservation (MDC) added the greater prairie-chicken to Missouri's endangered species list in 1999.

Greater prairie-chickens once thrived on the vast tracts of open grassland that blanketed a third of the state. Now just a fraction of a percent of native prairie remains. The greater prairie-chicken is just one of many prairie species imperiled by the loss of tallgrass prairie habitats.

The key to conserving prairie-chickens and other tallgrass prairie species is cooperative land management across prairie landscapes. Conservation at the scale needed will necessarily involve many partners, including the residents of Missouri communities that share a common geography with remnant tallgrass prairie habitats and the remaining prairie-chicken populations.

The Grasslands Coalition, a public/private partnership committed to the conservation of Missouri's native grasslands, is refocusing conservation attention on recovering this symbol of healthy tallgrass prairie ecosystems.

Working together, we can recover the prairie-chicken in Missouri. The Grasslands Coalition invites your input and participation in this conservation project.

**Recovery Goal:** Remove greater prairie-chickens from the state's endangered species list.

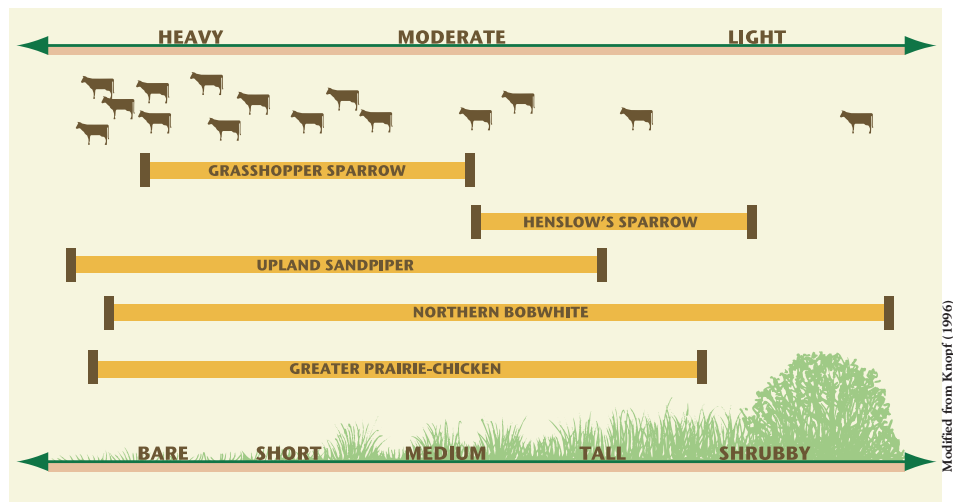
- Recovery will be considered accomplished when Missouri has a statewide population of at least 3,000 birds throughout the Grasslands Coalition Focus Areas for 10 years.

**Grassland Habitat Goal:** Each prairie-chicken population will require a minimum of 4,000 acres of grassland habitat within a 10,000 acre landscape.

- The 4,000 acres of managed grassland bird habitat should include a protected 2,000 acre core centered on prairie chicken leks and scattered tracts making up the remaining 2,000 acres. At least half of these scattered tracts should be greater than 100 acres.

Targeted Landscape	Targeted Species
Native prairie/wildlife friendly grassland complexes	Greater Prairie-chicken, Grasshopper Sparrow, Henslow's Sparrow, Upland Sandpiper
Other Species that will Benefit	
Eastern Prairie Fringed Orchid, Western Prairie Fringed Orchid, Oklahoma Sedge, <i>Carex bicknellii</i> , <i>Carex missouriensis</i> , <i>Carex opaca</i> , Wolf's Spike Rush, Mead's Milkweed, American Burying Beetle, Prairie Mole Cricket, Regal Fritillary, Grassland Crayfish, Northern Crawfish Frog, Slender Glass Lizard, Bullsnake, Ornate Box Turtle, Topeka Shiner, Bobolink, Bell's Vireo, Scissor-tailed Flycatcher, Dickcissel, Eastern Meadowlark, Northern Harrier, Sedge Wren, Loggerhead Shrike, Swainson's Hawk, Hispid Cotton Rat, Prairie Vole, Black-tailed Jack Rabbit	

Grassland birds require a wide variety of plant heights and densities ranging from bare ground to tall grasses. One method used to produce this structural diversity in grasslands is called patch burn grazing. Patch burn grazing mimics the historical interaction of two ecological processes that shaped native prairies—fire and grazing. Each year a third of the pasture is burned. The lush regrowth focuses grazing within the burned area. The burned unit shifts from year to year, providing varied structure throughout the managed area.



Desired Change	Proposed Monitoring
↑ Increasing numbers of prairie-chickens	Population survey of prairie-chickens annually
↓ Decreased fragmentation in prairie landscapes	Periodic assessment of land cover using satellite imagery or aerial photography
↑ Increased acres of prescribed fire management, rest-rotation and patch-burn grazing	Acres benefited as reported by MDC Private Lands program monitoring
↓ Decreased acres of grassland dominated by fescue	Periodic assessment of land cover using satellite imagery or aerial photography/ground truthing
↑ Increased acres of cropland restored to native grasses and prairie forbs or wildlife friendly grasses	Periodic assessment of land cover using satellite imagery or aerial photography
↓ Declining amount of sericea lespedeza due to active control methods	Field visits and regular site evaluations
↑ Improved native plant community composition on remnant prairies	Vegetation sampling to detect changes in conservative prairie plants at 3-year intervals
↑ Increased community awareness and involvement in prairie conservation	Human dimensions survey and workshops

*This initiative represents just one aspect of tallgrass prairie conservation. The Grasslands Coalition seeks long-term protection of prairie landscapes including the full array of native natural communities and species.*

To learn more, please contact:



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